-continued

Traditional Unified Messaging System	An embodiment of the Unified Messaging System of the present invention
Typically integrates Voicemail, Fax and E-mail Message types	Integrates a rich feature set of Message Types. Any form of media which can be encapsulated within a computer file for example - Voicemail, Fax, E-mail, Video-Mail, White-Board Note
Has no Workgroup Features	Can have workgroup features such as Shared Calendars, To Do Lists, Shared Address Books, Meeting request tools and file sharing capabilities. These all integrate with the messaging components
Users often can only receive messages	Users can also initiate the sending of their own messages

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic diagram of a conventional unified messaging system;

FIG. 2 is a schematic diagram of the unified message system according to the present invention; and

FIG. 3 illustrates a single node of the system of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The system of the present invention is built from an Internet perspective and comprises an Internet centric distributed connection which mirrors the resilient and distributed nature of the design of the Internet. The system integrates telephone components seamlessly as just another form of data. This is possible due to the recent advances in computer telephony hardware which allow for phone calls to terminate in computer systems.

The unified messaging system of the present invention is a distributed system comprising a plurality of nodes **100***a–f* each naming data input/output connected together via the network **103** such that each node is functionally part of a larger system. Its functionality is performed on the multiple of nodes. The network communication between the nodes is not purely external communication such as e-mail or message passing such as in the lower levels of the traditional unified messaging system. The network communication is at all levels of the OSI model. For example, network communication is not confined to external communications, it is the actual internal system communication working in all 7 layers of the OSI model. The OSI 7 Lauer Protocol model is a standard mechanism for describing technical network and computer systems. It is ratified by the International Standards Organization. This Protocol is well known to persons skilled in the art and will not be described in detail here, but in brief it describes a common reference model of categorizing components of a system. Such a reference point is useful in describing the functionality of the unified messaging system of the present invention.

The model is hierarchical. The lower layers are the lower levels of a system, and are for lower level components such as electrical connections and basic network sessions. The higher levels of the system deal with the functionality of a system. For example, "System A—Process this system operation request while System B is busy".

Each component node is one separate device i.e. all communications, Internet and Network functionality is contained in one unit, each node being a single physical entity. As shown in FIG. **3**, each node has two input/output

connections, the external network connection **105** and the external telephone connection **107**.

This is different to the traditional unified messaging system in which the system is connected to a separate PBX that is it cannot directly take a phone trunk as an input.

The user functionality of the unified messaging system of the present invention will now be described in detail to aid the reader, the following definitions are provided:

The term "internal users" is defined as users who have accounts on the unified messaging system of the present invention. These users are maintained on an internal database. Details stored include names, e-mail addresses, phone numbers, pager numbers, wireless device numbers, fax numbers etc.; and

The term "external users" is used to define those users who do not have an account on the system. When messages are moved about the system, if they originate from external sources, then they will be delivered out of the system by one of the nodes.

The user functionality of the unified messaging system of the present invention can be considered with reference to the following six categories:

Receiving Messages: The methods by which messages and communication enters the system. Once the messages are taken they are put into the central In-box awaiting the user collection.

Collecting Messages: The methods by which messages are retrieved from the central In-box.

Sending Messages: The methods by which the user can send their own messages. This can be in the form of a reply to an incoming message or the initiation of a new message for sending.

Message Broadcasting: This functionality which lets the user broadcast the same message to a list of users.

Telecommunications Functionality: Those features which let conference phone calls take place and allow for live telephone calls to be routed.

Intelligent Agents: Components whose function is to control the routing, timing, priority and delivery of the above constructs.

The user can receive messages via any of the nodes of the unified messaging system of the present invention by voice-mail message, fax message, e-mail message, web response message, phone answering message, SMS and other wireless "short message service" based message, notification message, system message, video-mail message and white board message.

Once the messages are received they are stored in the user's In-box. The In-box to the user has one central location, i.e. one location logically. The Actual In-box has the messages and components spread over the distributed node based system, physically distributed.

The types of incoming messages which can potentially be supported by the system of the present invention are detailed below.

For voicemail messages, each user is assigned a unique phone number on each node they subscribe to. This phone number acts as a unique identifier for calls coming in. In this way, incoming calls are matched to the appropriate user. The phone line, T1, E1, (Analog protocols) connect directly to the node, and no PABX or switchboard is required. The line rings over a phone and the unique phone number of the users are passed through the same line to the node using DDI, DID standards. The call is then answered by the VP node and the